

Claims

What is claimed is:

1. A method of producing nanophase W powder by low-pressure vapor phase reaction, which
5 comprises the steps of preparing a precursor containing tungsten; producing gas by vaporizing or sublimating said precursor; and separating the tungsten component by placing said gas in an inert atmosphere while maintaining pressure below atmospheric pressure; and condensing said tungsten component at pressure below atmospheric pressure.
- 10 2. The method of producing nanophase W powder by low-pressure vapor phase reaction according to Claim 1, wherein said precursor, at least one, is selected from the group consisting of tungsten hexoxide, tungsten chloride, and tungsten hexacarbonyl.
- 15 3. The method of producing nanophase W powder by low-pressure vapor phase reaction according to Claim 2, wherein said inert atmosphere comprises at least one of He, Ar, N₂, H₂ or the mixture thereof.
- 20 4. The method of producing nanophase W powder by low-pressure vapor phase reaction according to the Claim 3, wherein said step of carburization is carried out at a temperature of 500~1,500 °C.
5. The method of producing nanophase W powder by low-pressure vapor phase reaction according to the Claim 4, wherein said carburized gas is condensed by absorbing the same onto the surface of a cooler at a temperature below zero.
- 25 6. The method of producing nanophase W powder by low-pressure vapor phase reaction according to Claim 1, wherein said inert atmosphere comprises at least one of He, Ar, N₂, H₂ or the mixture thereof.
7. The method of producing nanophase W powder by low-pressure vapor phase reaction according to the Claim 1, wherein said step of carburization is carried out at a temperature of 500~1,500 °C.

8. The method of producing nanophase W powder by low-pressure vapor phase reaction according to the Claim 1, wherein said carburized gas is condensed by absorbing the same onto the surface of a cooler at a temperature below zero.